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Acute Surgical Emergencies in Patients at or Near the End of Life

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ABSTRACT

Patients with advanced or incurable preexisting illnesses often develop acute surgical emergencies. The decision to proceed with aggressive surgical intervention or provide comfort measures and symptomatic relief is often difficult. This article provides an organized overview of the multiple considerations required to produce optimal patient outcome.

CASE PRESENTATION

An 87-year-old woman presented to the emergency department with a 3-day history of fever, abdominal distention, vomiting, and decreased mental status. Her extensive past medical history included severe aortic stenosis, chronic atrial fibrillation, hypertension, type 2 diabetes mellitus, chronic renal insufficiency, diverticulitis, and severe dementia. She had no clear advance directive or designated surrogate for medical decisionmaking. After arrival, she received aggressive fluid resuscitation, vasopressor support, intravenous antibiotics, nasogastric decompression, electrolyte replacement, and glucose control.

Her laboratory studies revealed profound metabolic acidosis, significant leukocytosis, and acute worsening of her underlying chronic renal failure. Physical examination demonstrated an unresponsive elderly female who was marginally hypotensive despite vasopressor support. Her abdomen was distended and firm. A computed tomography scan of her abdomen demonstrated pneumoperitoneum and radiographic evidence of ischemic small intestine. Surgical consultation was obtained for bowel perforation, intestinal ischemia, peritonitis, and septic shock. The surgeon agreed that the source of the acute deterioration was an intraabdominal catastrophe that would require emergent surgical exploration to provide any chance of survival. But the patient's husband and children disagreed as to whether aggressive surgical management via exploratory laparotomy was appropriate or if a pain-free death should be the ultimate goal of any further treatment.

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INTRODUCTION

Ethical dilemmas, as depicted in the preceding clinical summary, are encountered frequently in patients who require medical decisionmaking at or near the end of life. Continued advancements in medical and technologic capabilities allow contemporary medicine to support physiologic function and prolong biologic life even in patients with no realistic hope of meaningful recovery. Many disease processes that were rapidly fatal in the past have had their rate of progressive clinical deterioration slowed and have become chronic incurable illnesses.[1]

SURGICAL DECISIONMAKING

Acute emergencies that may result in sepsis, cardiopulmonary failure, multiple organ system failure, and neurologic deterioration formerly produced rapid mortality when presenting in patients with severe preexisting illnesses or terminal conditions.

Today, such patients are commonly managed in highly mechanized and technology-driven environments such as those available in most emergency departments and intensive care units.[2] Many of these patients who once would have died rapidly following the onset of acute emergencies are now promptly resuscitated, stabilized, and supported with aggressive management. In addition, laboratory and radiographic studies typically provide physicians with an early and accurate diagnosis of the cause of the acute instability and life-threatening condition. Surgical consultation is often obtained when it is determined that the etiology of the patient's acute instability is one normally managed by surgical treatment. Often, the patient may be so unstable that surgical intervention is impractical or may have

preexisting medical diseases or a terminal condition that makes decisions regarding whether to proceed with aggressive management difficult at best. The surgeon confronted with an acute surgical emergency in a patient with extreme operative risk, underlying terminal illness, or preexisting poor quality of life must integrate a variety of considerations when determining whether to propose aggressive surgical intervention.

Medical decisionmaking in this setting is made more difficult by a frequent lack of patient input about his or her own wishes regarding further care. About 60% to 70% of seriously ill patients are unable to speak for themselves when decisions to limit treatment are considered.[3,4] In addition, only 10% to 20% have completed formal advance directives in anticipation of such a clinical situation.[5] Surrogates and family members may not be familiar with the patient's wishes or may even disagree with the patient or one another about end-of-life decisions.

The surgeon who is consulted typically has no preexisting relationship with the patient or family. His or her overall assessment of the patient's preexisting functional status and quality of life is often based on anecdotal accounts, a cursory review of incomplete medical records, and assumptions. It is frequently difficult to accurately predict a specific patient's potential response to emergent surgical intervention and the likely risks of subsequent morbidity and mortality that may result.

Anticipating the ultimate impact on the patient's overall quality of life is equally challenging. The inherent lack of strong predictive models in many such cases and the possibility of a favorable outcome, even if unlikely, can encourage surgeons to proceed with emergency operations and a chance for the surgical cure. The decision to operate is often the most comfortable as well as the most familiar decision surgeons make, even if the surgery only addresses the source of the patient's acute emergency, and the most optimistic outcome still predicts a chronically debilitated and deteriorating patient with the preexisting quality of life. Surgeons are trained to aggressively and invasively attack acute surgical emergencies; it is and has been a fundamental goal of our profession for centuries.

END-OF-LIFE DECISIONMAKING

Today's surgeon must integrate an increasingly complex analysis of medical decisions involving any patient at or near the end of life. Acute surgical emergencies today present frequently in patients with chronic or incurable diseases. This situation is particularly common in the elderly, who represent the most rapidly growing segment of the population in the United States.[6]

The modern concept of hospice care has focused increased attention on end-of-life issues. The primary purpose of medical intervention in these patients shifted from control or cure of disease to relief of suffering.[7] In its early development, hospice care in Great Britain was primarily offered to patients with advanced malignancies for short periods of time prior to death. As principles of the hospice concept evolved, application to noncancer patients earlier in the course of an increasing spectrum of incurable and progressive conditions became recognized more broadly as palliative care. In 1990, the World Health Organization defined palliative care as ''the active and total care of patients whose disease is not responsive to curative treatment.''[8]

The concept of palliative care became increasingly applicable to patients with a variety of diseases and limited life expectancies. Such patients who are actively being managed with treatments and support aimed at optimizing their overall quality of life may present with acute emergencies. These emergencies may involve a wide spectrum of processes and organ systems and may require the expertise of many medical specialties. Often, however, it becomes evident that the acute life-threatening emergency is one requiring surgical input and decisionmaking.

The acute surgical emergency may be one that is commonly encountered and consistently managed by a standard operative procedure, but consideration of the overall status of the patient may cloud the surgeon's comfort in proceeding with the procedure. Is aggressive surgery appropriate in every patient? The answer is of course not. A decision to proceed with or to withhold emergency surgery involves a variety of considerations and patient-specific factors. Although treatment decisions become highly case specific, the fundamental basis for determining appropriate surgical input lies in the developing area known as surgical palliative care.

SURGICAL PALLIATIVE CARE

Balfour Mount, a surgeon, first used the term palliative care to describe a type of comprehensive, interdisciplinary, patient-centered care that provides symptom relief to dying patients.[9] Similar to the hospice model, surgical palliative care originally focused on the relief of pain and suffering in patients with advanced incurable malignancies.

Surgeons have used noncurative procedures to relieve pain and suffering for many decades. In fact, the only true goal of many operations has been the relief of suffering and improved quality of life. Pancreaticoduodenectomy or gastrojejunostomy for advanced upper gastrointestinal cancers, the Halsted radical mastectomy, and other procedures began not

as curative but as palliative operations. Coronary artery bypass was first considered a procedure to alleviate debilitating angina pectoris.[10] There are many more specific examples of surgical treatments developed and initially used to provide symptomatic relief to critically ill and incurable patients without scientific evidence or any realistic hope of effecting ultimate survival. In addition, the modern management of burns and trauma involves a multidisciplinary palliative care team early after injury for patients unlikely to survive as well as those for whom recovery is statistically predicted.

Thus, a multidisciplinary surgical palliative approach can be followed without a simultaneous requirement to avoid aggressive therapy or procedures. Aggressive emergent surgical intervention and the concept of palliative care are not necessarily inconsistent goals. What is mandatory in terms of optimizing outcomes in severely ill or incurable patients who develop an acute surgical emergency is the application of both concepts to the patient in question.

The surgeon, when faced with an acute surgical emergency in such a patient, must establish what clinical management is in the patient's best interest. Optimal outcomes that can be anticipated from emergency surgery must be balanced with an overriding commitment to minimize unnecessary pain and suffering. But clinical management must be consistent with and preserve the patient's fundamental right to autonomy in determining what constitutes appropriate care. Patient autonomy is paramount in both ethical and legal analysis of medical decisionmaking, especially in patients at or near the end of life.[10] Courts have clearly demonstrated that a patient has fundamental rights to refuse or limit treatment.[11] These rights may be expressly communicated by a competent patient or indirectly maintained through advance directives or a designated surrogate.

Yet surgeons have long had difficulty incorporating advance directives into medical decisionmaking. In general, surgeons view advance directives as lacking specificity or providing only vague descriptions of a patient's wishes. Surgeons also think that advance directives do not necessarily reflect an individual patient's true wishes and desires regarding treatment of a specific medical condition or the possible use of a specific intervention.[12] Hemodialysis, for instance, could be considered standard critical care, heroic intervention, life support, or futile care based on a specific patient's wishes or in the context of an individual patient's clinical course. This range of interpretations may often result in a conflict between surgeons' attempts at aggressive surgical cure and treatment limitations imposed by poorly worded or vague advance directives.

Although surgeons often lack conviction in or support for simplistic application of advance directives, they are very familiar with the process of informed consent. Preoperative discussions, in which informed consent has a central role, occur for all surgical cases, both elective and emergent. This is the optimal point for the surgeon to incorporate the individual patient's specific clinical issues, no matter how complex, to develop a specific treatment plan. Any initial discussion with the patient or designated surrogate (if the patient is incapacitated) should incorporate existing advance directives into decisions regarding the surgical emergency at hand. Patients and surrogates deserve frank and open discussions about the patient's condition, the need for surgery, available alternatives, and the anticipated risks and benefits of the procedure. Equally important is the need to specifically address any possible or likely complications or morbidity, including postoperative pain, the need for supportive care such as mechanical ventilation, and long-term effects on the patient's preexisting quality of life. Accurate information about a patient's clinical condition, treatment options, and anticipated outcome allows the surgeon, patient, and family to incorporate an often complex set of circumstances into the discussions and then decide whether to proceed with or withhold surgical intervention. Such frank discussions also allow the patient and/or surrogate to forego aggressive intervention and seek a pain-free solution or the withdrawal of further care.

The treatment plan chosen in the acute setting is not permanent and irrevocable. The variable and often unpredictable response to aggressive surgical intervention makes it sometimes difficult to predict an individual patient's postoperative course. Thorough discussion prior to any potential surgery gives patients and family members an opportunity to discuss subsequent limits to care beyond surgery based on specific or unforeseen operative findings, short-term physiologic response following the operation, or acute worsening of preexisting illness. It is clearly reasonable for a patient and family to consent to an aggressive plan that includes surgical management of the emergency while openly accepting that given catastrophic operative findings, poor patient response, or failure to provide relief of symptoms or pain, they may desire limited further intervention. These discussions need to be ongoing and informative to the patient and/or surrogates and involve, when available, a multidisciplinary team. A comprehensive approach will allow optimal input from numerous perspectives and preserve the palliative

goal of optimizing patient autonomy, outcome, and the relief of unnecessary suffering.

A poor response to surgery or worsening of underlying illnesses must be anticipated as possible from the onset, and a patient's desires are most easily addressed prior to such an occurrence. Failure to recognize that limiting support or withdrawing care after aggressive initial management may be appropriate will result in prolonged suffering for patients and families, lengthy intensive care stays involving futile care, and inefficient and expensive utilization of resources.[13,14]

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